



Intelligence

Electronic Warfare Test

Directorate

Command Brief



IEWTD, USAOTC

Fort Huachuca, Arizona

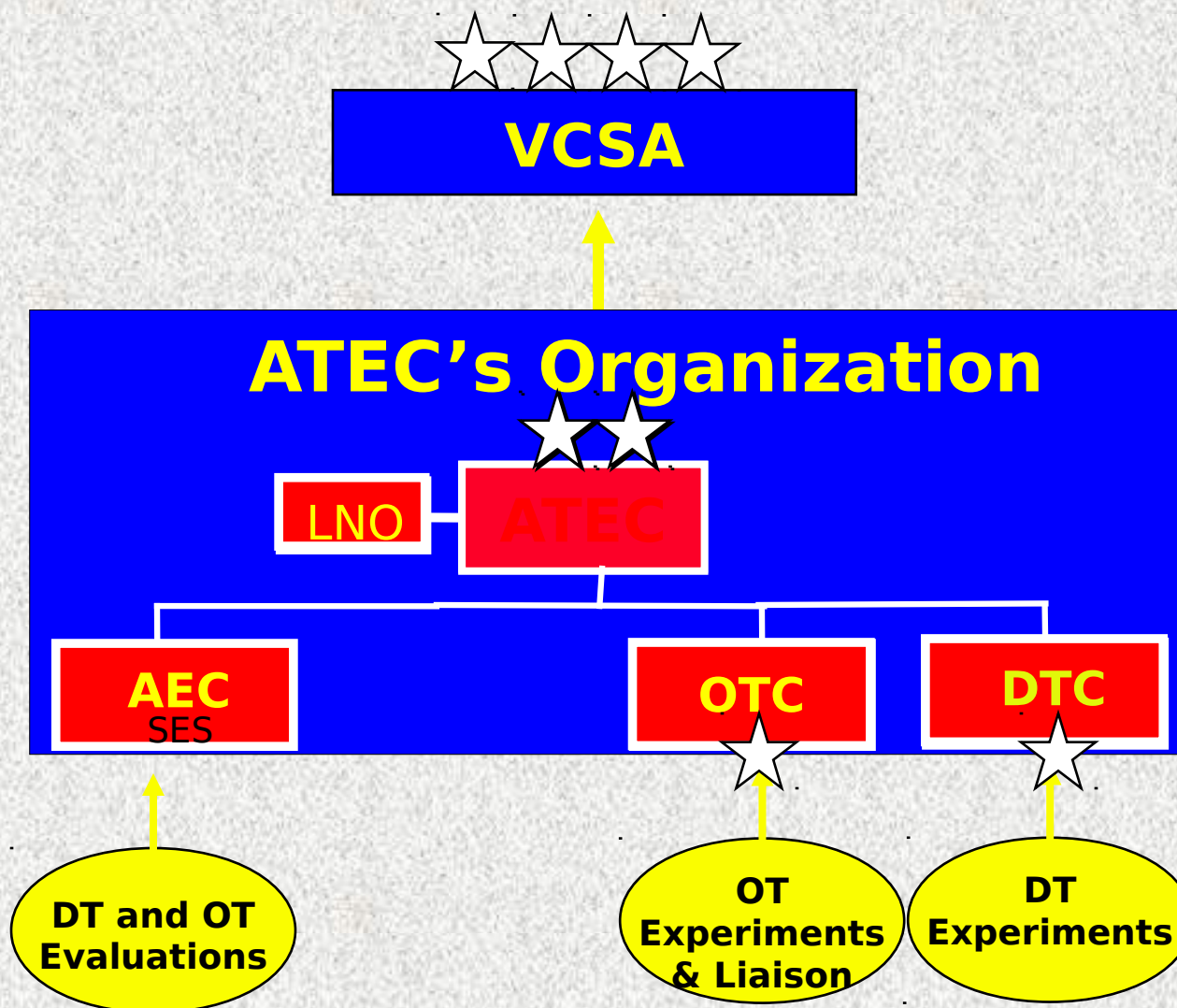
**“The Great Thing is to get the
True Picture; Whatever it is.”**

Winston Churchill





ARMY TEST and EVALUATION COMMAND (ATEC)



*Intelligence Electronic Warfare
Test Directorate*



U.S. Army Intelligence Electronic Warfare Test Directorate

Mission

To plan, conduct and report on operational test and assessments of intelligence, electronic warfare, surveillance, and reconnaissance systems to include E3/IA in support of Army and Joint-Service material acquisition process

***Mandated by OPERATIONAL TEST Title 10, U.S. Congress**

Soldiers



**Operations
MTOE Units**

**Advanced
Technology**

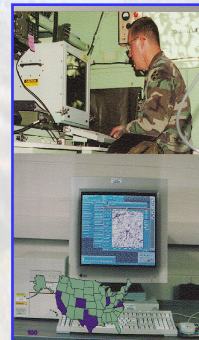


**Wartime
Tempo**



**Simulation/
Stimulation**

Modeling





United States Army Operational Test Command

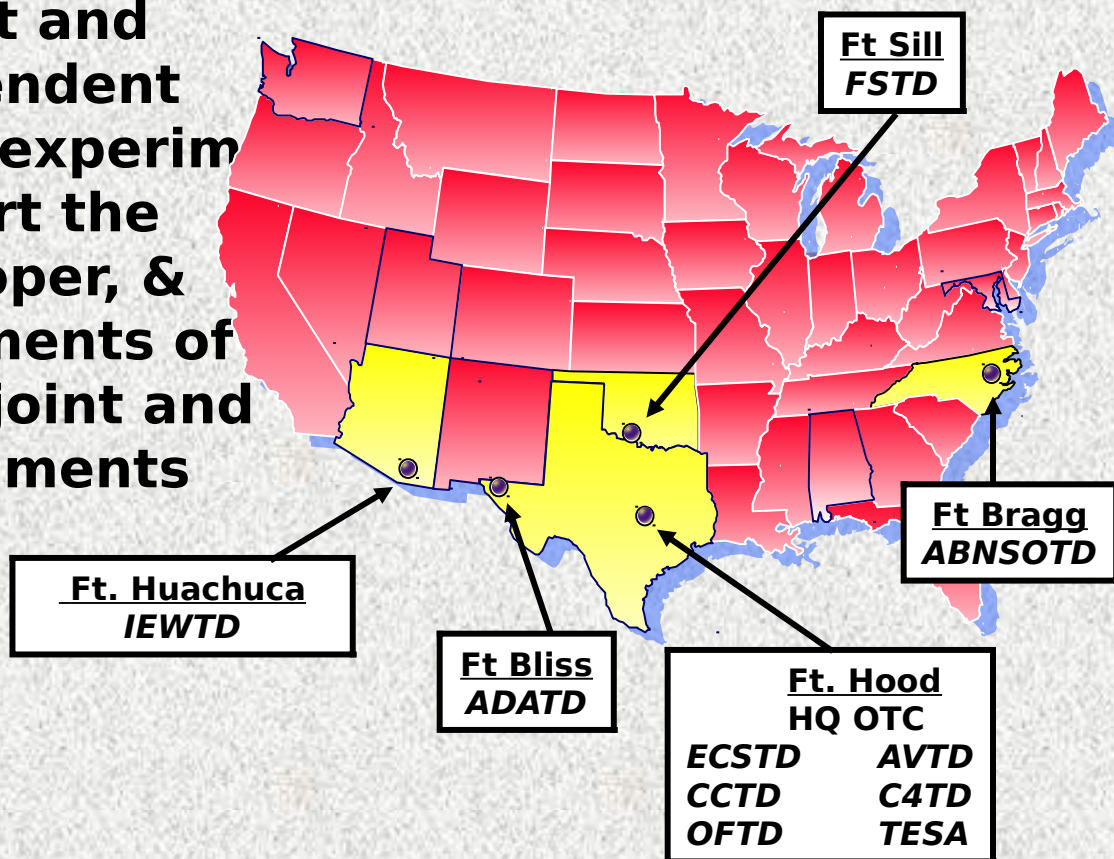




USAOTC

Mission & Locations

Design, plan, conduct and report quality independent operational test and experiment as required to support the users, combat developer, & technology advancements of the United States in joint and multi-service environments





IEWTD

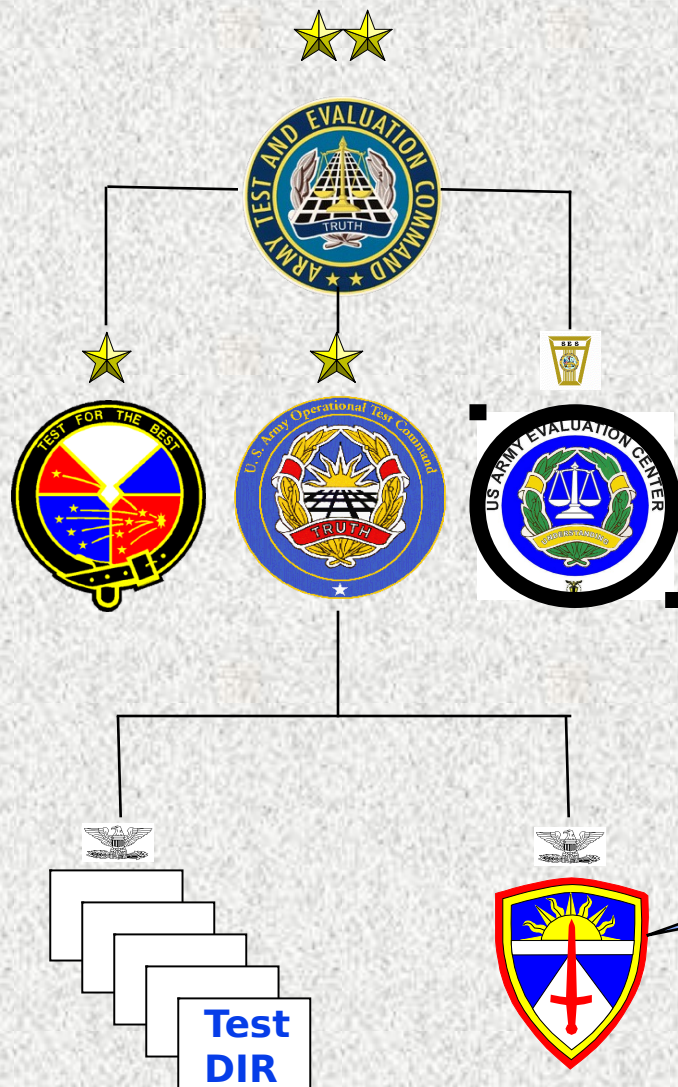
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Organization



Directorate HQs

- OFF - 2
- ENL - 1
- CIV - 3
6

Tech Support Division

- OFF - 2
- ENL - 9
- CIV - 22
33

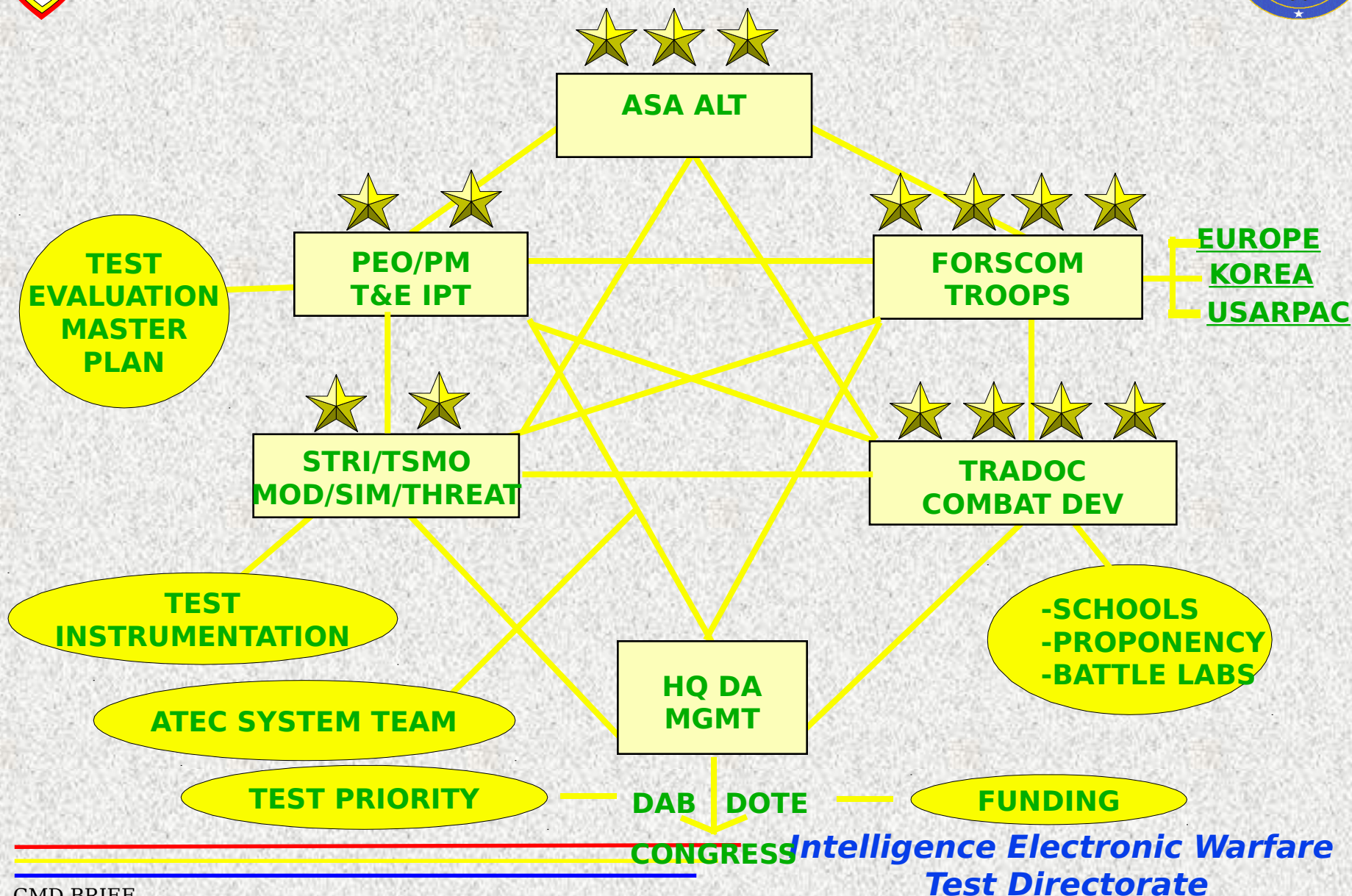
Test Division

- OFF - 8
- WO - 2
- ENL - 22
- CIV - 18
50

89



Test Officer Environment





Test Team





U.S. Army Network Enterprise Technology Command/ 9th Army Signal Command

- Worldwide Information Services and C4I Systems
- 11th Signal Battalion



U.S. Army Electronic Proving Ground

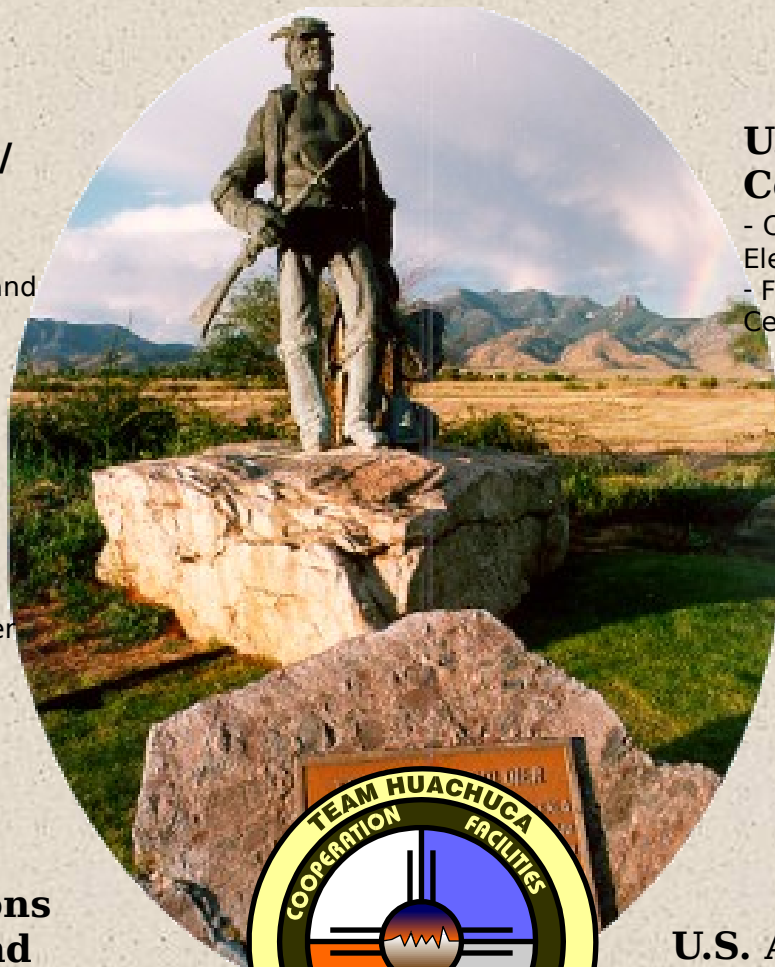
- Army's C4ISR Developmental Tester



U.S. Army Communications and Electronics Command

- C4I Systems Engineering, Integration and Sustainment
- Information Systems Engineering Command (ISEC)

Team Huachuca: Synergy Greater than the Sum of its Parts



U.S. Army Intelligence Center

- Center for Army Intelligence & Electronic warfare training
- Futures Development and Integration Center



Joint Interoperability Test Command

- Identify and Solve C4I Interoperability problems



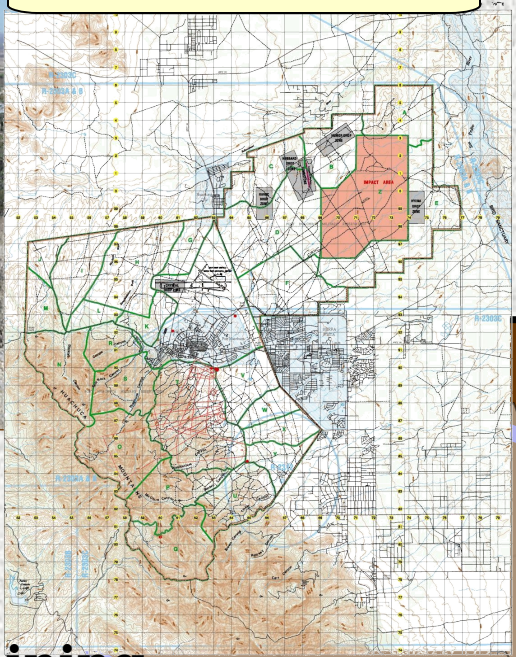
U.S. Army Operational Test Command

- Operational Tester for Army and Joint I&EW Systems

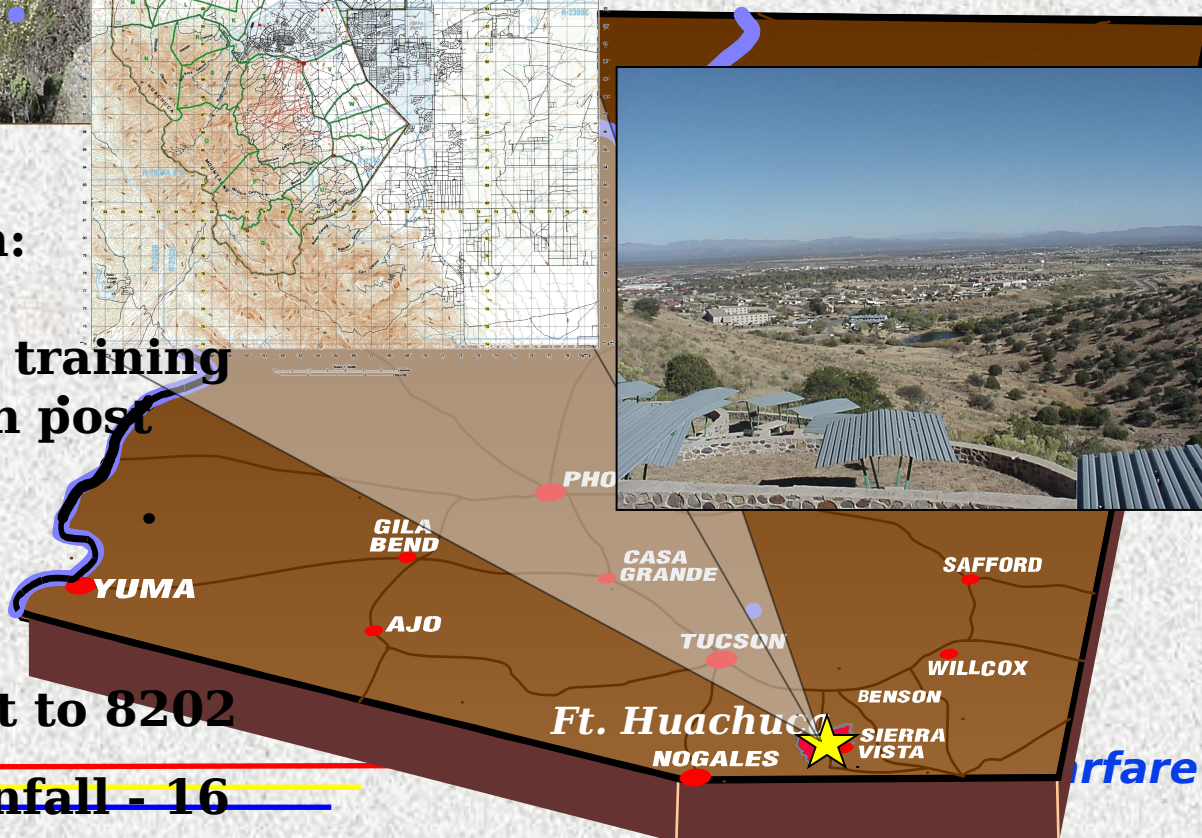
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Fort Huachuca



- **Military Reservation:**
 - ◇ 73,272 acres
 - ◇ 67,000 acres for training
 - ◇ 6,000 acres main post
- **Real Property:**
 - ◇ 8,013,518 sq. ft.
 - ◇ \$561,586,000
- **25 Training areas**
- **Elevation - 4265 feet to 8202 feet**
- **Average Annual Rainfall - 16 inches**





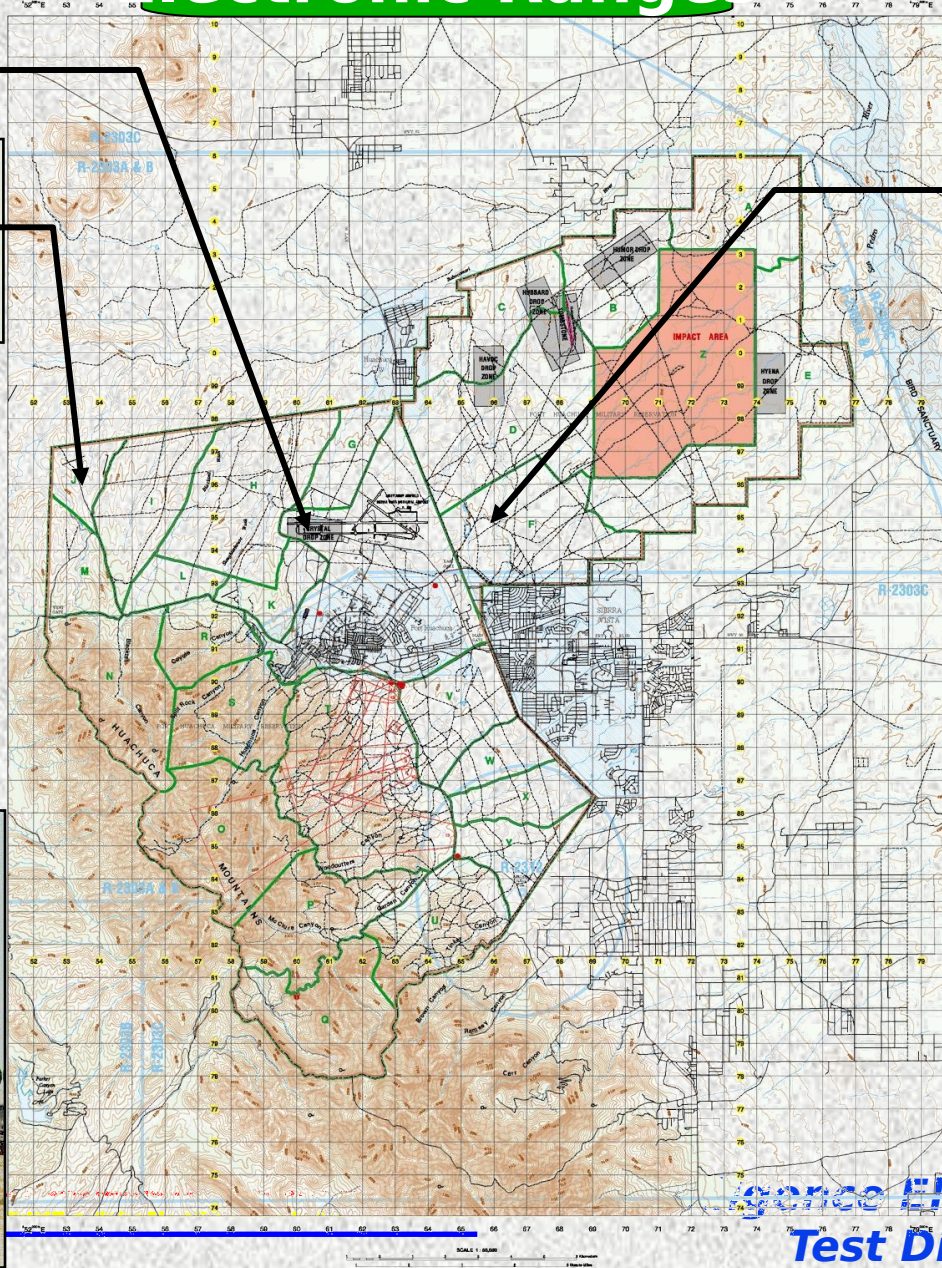
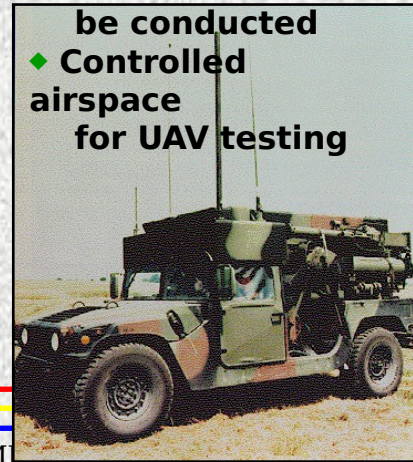
Electronic Ranges



- ◆ Irreproducible long term spectrum access
- ◆ Only U.S. location where aggressive, offensive, electronic warfare/jamming can

be conducted

- ◆ Controlled airspace for UAV testing



- ◆ Only test range with a frequency coordination zone protected by federal mandate (not transferable)
- ◆ Expandable to adjacent Federal, State, and Local lands to emulate Division size tests
- ◆ Located in the San Pedro



Source: AF
Test Di

Airfield and Strips



Libby Army Airfield

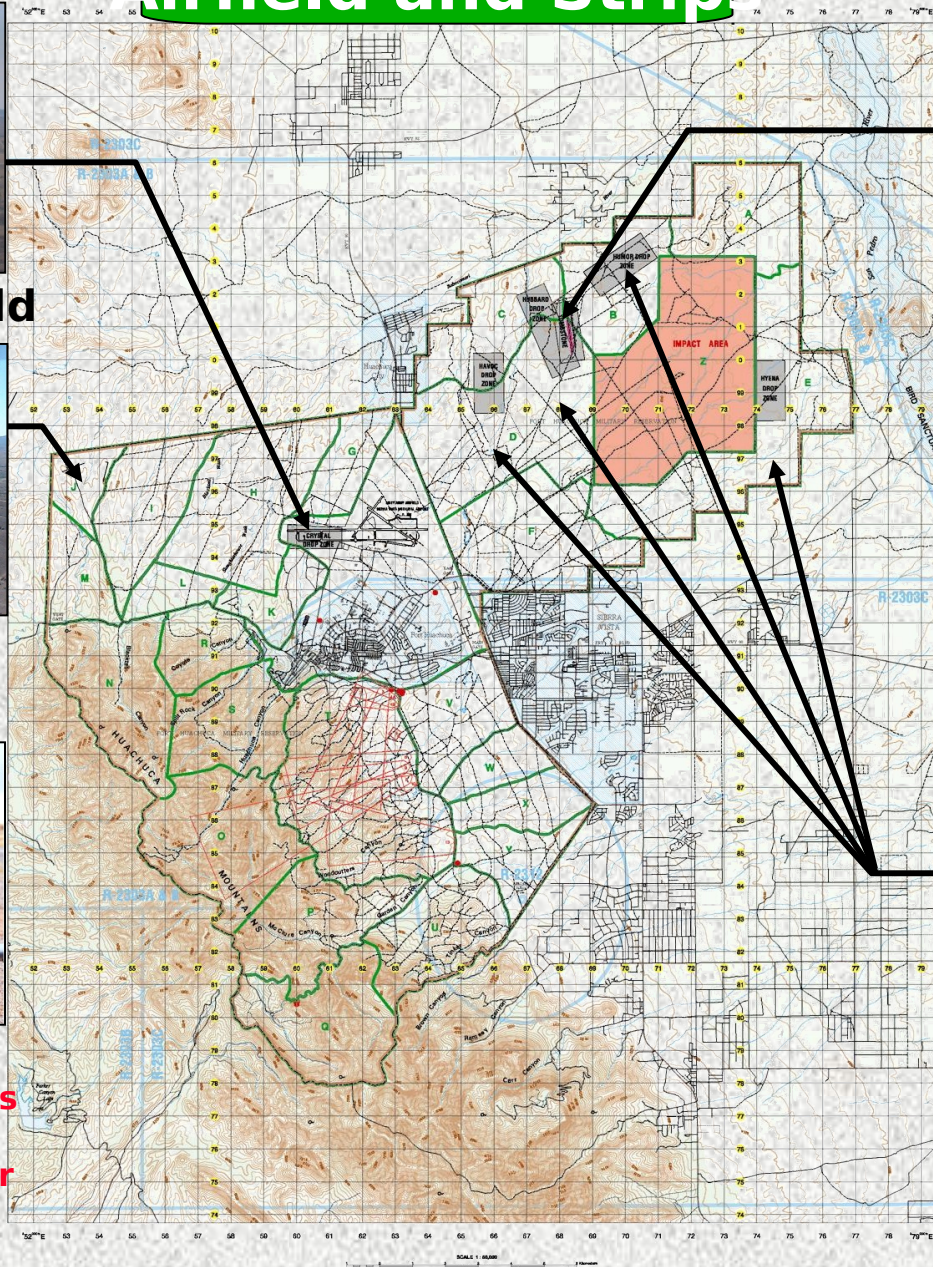


Rugge-Hamilton Airstrip

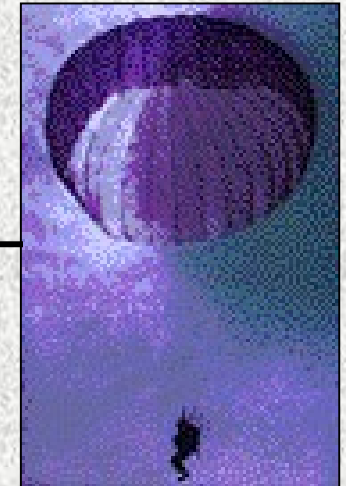


UAV Airfield

- ✦ **Premier UAV Range in the United States**
- ▢ **Mild Climate - 350 flying days per year**
- ▢ **Positive airspace control w/FAA**
- ▢ **Sierra Vista UAV support**



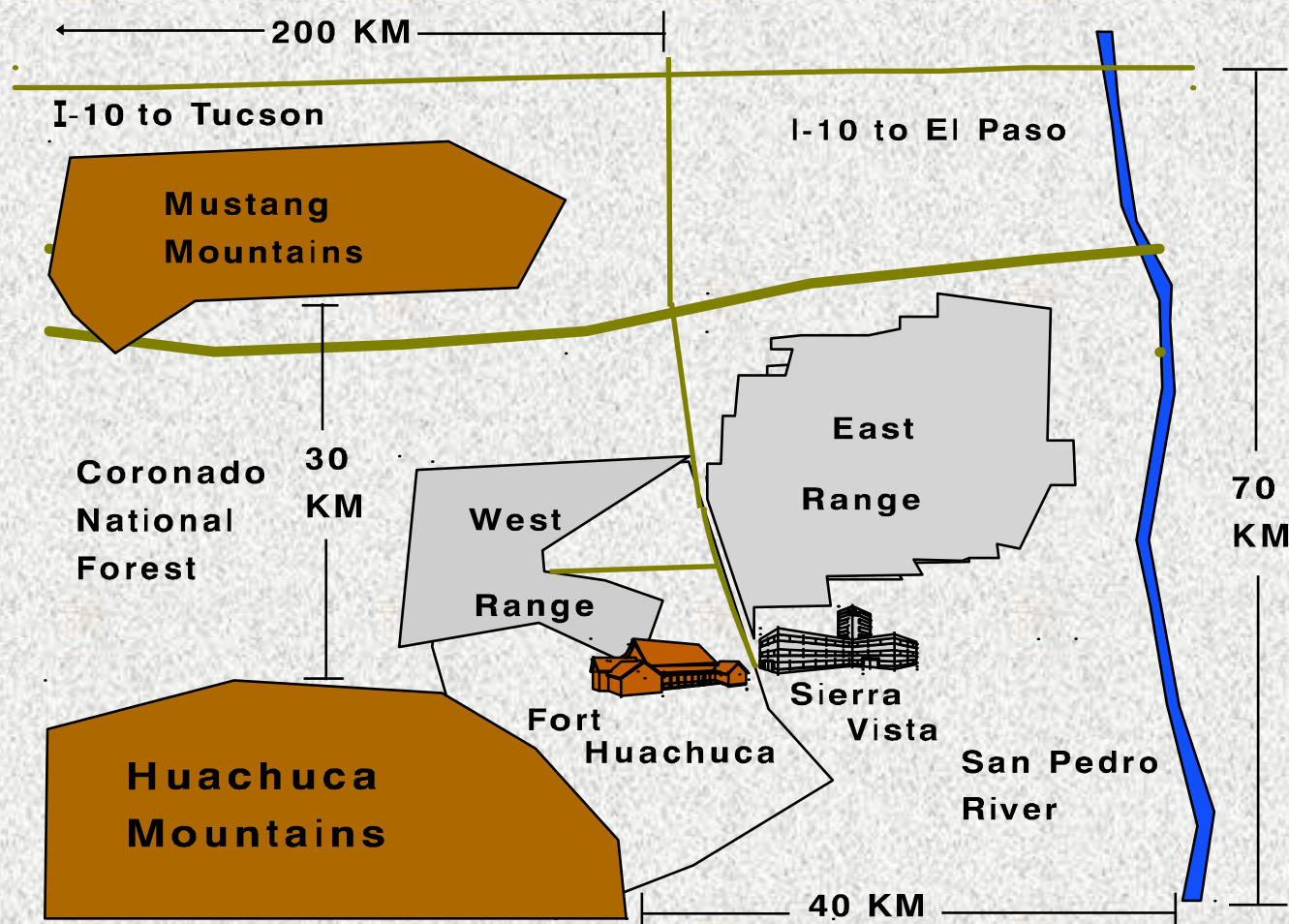
Hubbard Strip



Four Surveyed Parachute Drop Zones



Ft. Huachuca Test Ranges





Aerial Common Sensor

Transition of Army Corps ISR

ARL

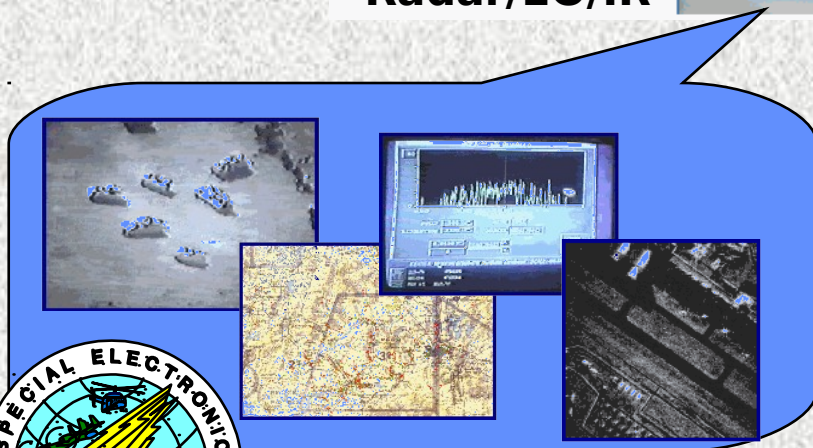


Radar/EO/IR

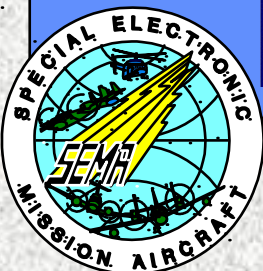
GR/CS



COMINT/ELINT/SRE



- **Airborne Platform Subsystem**
 - Worldwide self-deployable to support Corps/JTF
- **Ground Processing Facility**
 - HMMWV-based
 - Interoperable with other DCGS-A components





Unmanned Aerial Vehicle (UAV)



**Shadow
200**



FCS CL I-IV



MAV ACTD

**UAV is a UA and UE
Commander's primary
day/night RSTA system**





All Source Analysis System (ASAS)





Prophet Ground System



AN/MLQ-40

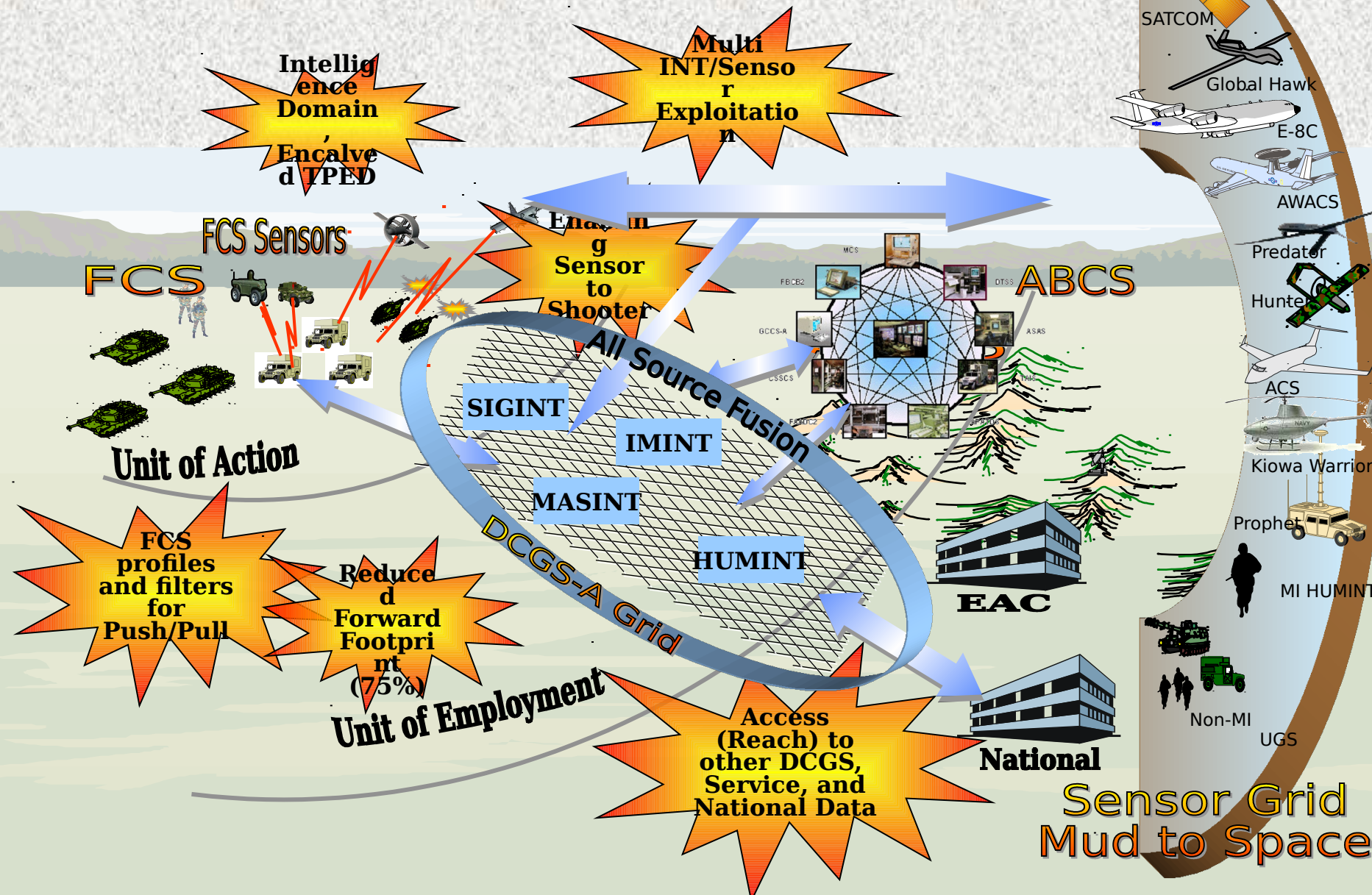


- **AN/PRD-13(V)2 or MD-405 Receiver**
 - **DF lines of bearing**
 - **Push-to-talk unencrypted tactical voice signals**
 - **Electronic Attack capability**
 - **FBCB2 digital communications and/or SINCGARS for voice communications**
 - **OTM operations**
 - **Non-unique signatures/survivable**
 - **Deployable dismounted airborne insertion, vehicle singload on UH-60 or C-130**
- Primarily a Force Protection Asset for Brigade Combat Team



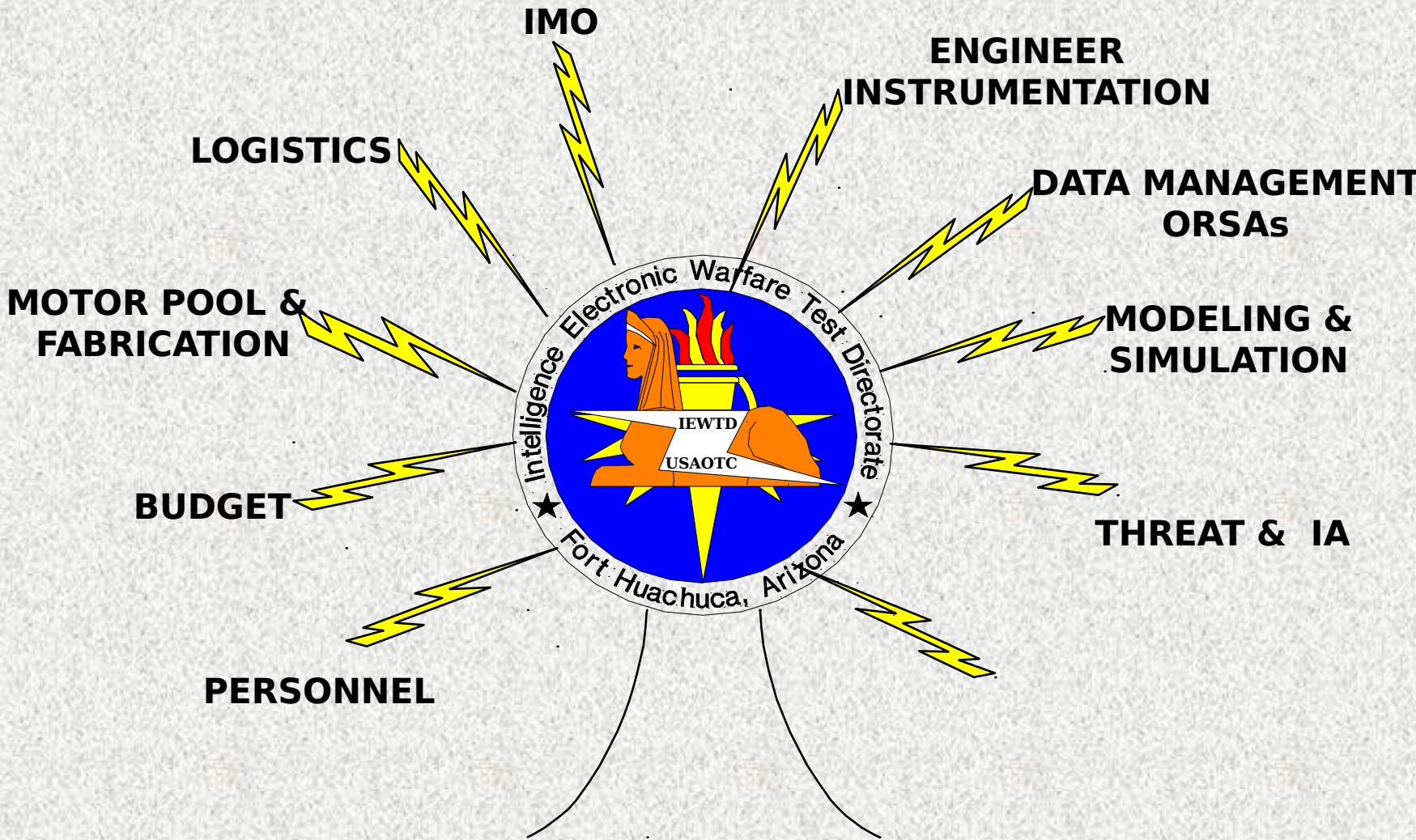


DCGS-A





Technical Support Division





Electromagnetic Assessments

Electromagnetic (E3)
Interference
Compatibility
Vulnerability



National Systems

C4ISR /ABCS Systems

SATCOM

LANs

C2 Systems
GPS

Information (IA/IW)
Assurance
Warfare



Testing Tools





EW Monitoring Facility



- **EWMF is a comprehensive mobile RF measurement and analysis facility.**



- **Receive, analyze, characterize signals 1 MHz - 40 GHz**
- **Line of Bearing 1-1200 MHz (fast 10 μ sec dwell)**
1-40 GHz
- **42' Expandable, fully mobile semi-trailer with generator**
- **Two 4x4 Field Intensity Measurement (FIM) vans for highly mobile, quick reaction capability; measure, analyze 1 MHz - 18 GHz**

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Automated IEW Test System



- AI/EWTS is an array of mobile field communications simulators that provide an automated, repeatable, scripted test scenario. DIA certified for each test.

- 11 transmitters with generators, antenna masts, heat/AC
- 2-1300 MHz 2-30 250W Whip, long wire
- 20-1000 100W Discone
- AM, OOK, telephony, 1-0-1-3, FM, FSK, BPSK, QPSK, 2W LPA
- Frequency hopping, burst, spread spectrum
- Transmits digitally recorded voice traffic - can be scripted scenario or free text

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Vulnerability Mobile Transmitter Vans

- Flexible, mobile, transmitter facilities designed primarily to simulate threat jammers and noncommunications signals. DIA certified for each test.



- VMT-A: 20 - 1000 MHz; 3 - 4.5 KW ERP; CW, tone, noise record/retransmit, jammer or communications (ESM/ECM against Freq Hoppers)
- VMT-B: 1 - 40 GHz, 40KW - 2MW ERP; parabolic dish or horn antenna, video-based tracking, Scan/Pulse generator, jammer or radar simulation
- VMT-C: 2 - 30 MHz; 15 - 50 KW; LPA or whip; jammer or communications (AM, FM, CW, SSB, Pulse, Noise, Phase)



Video & GPS Systems



- Synchronized compression recording, and playback of high resolution RGB video 1280 x 1024 (OP display), NTSC (overview cameras), and sound.
- 10 channels RGB, 10 channels NTSC, 20 channels sound
- GPS 25 portable receivers with recording capability
- Accuracy > 1 meter post differentially corrected
- 9-hour recording capability at 1 position/second
- Video and GPS assets are typically used for testing of imagery-based systems to document operator displays and location of physical targets in the field.



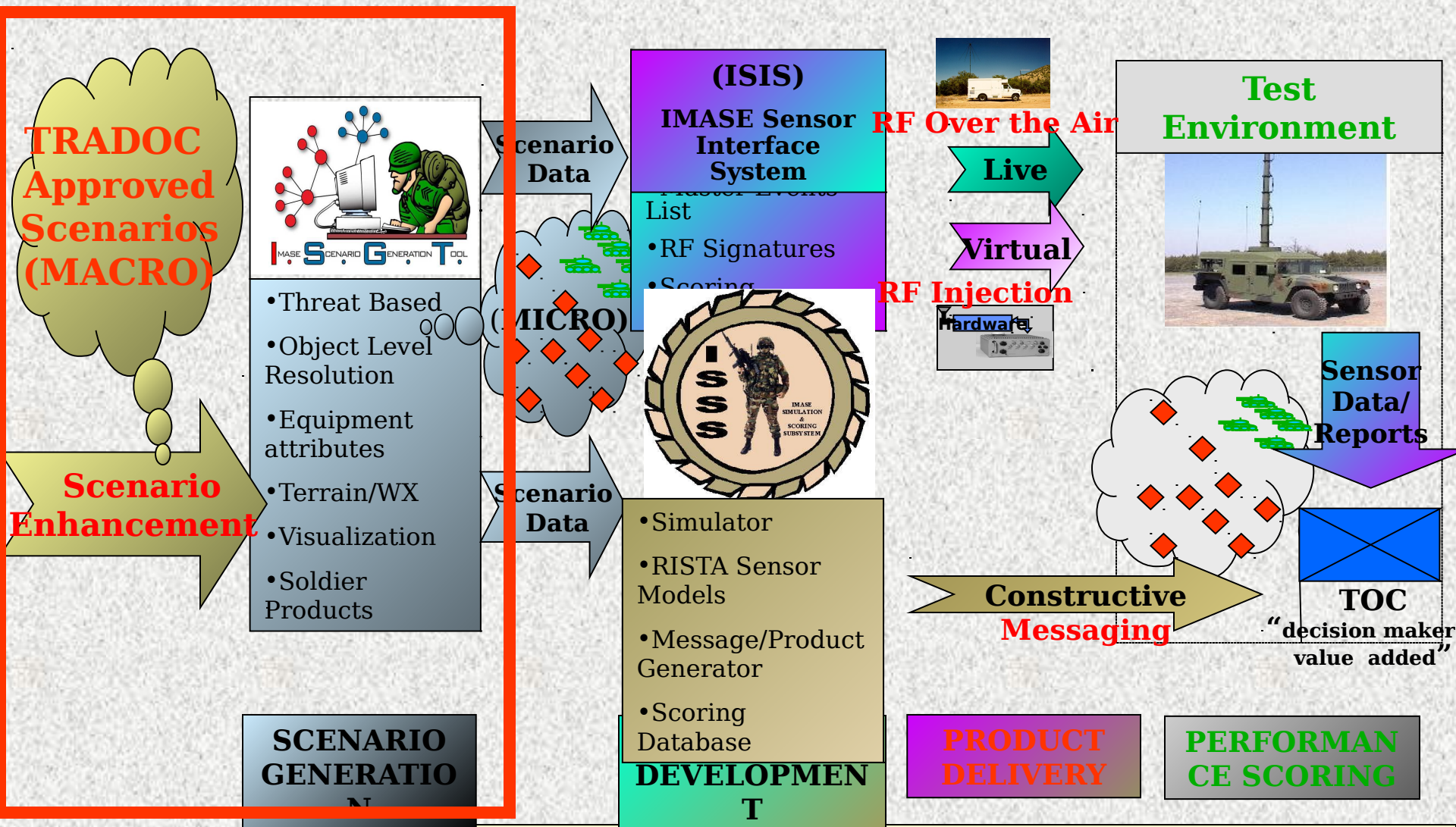


IEWTD IMASE

- IEWTD M&S&I provides the “**threat-based**” environment to test IEW/ISR systems.
- IMASE M&S&I is uniquely qualified to provide the “**threat-based**” multi-spectral IEW/ISR environment needed to support:
 - FCS Testing
 - IEW/ISR system testing
 - TEMO domain



Creating the Operational Test Environment via M&S&I

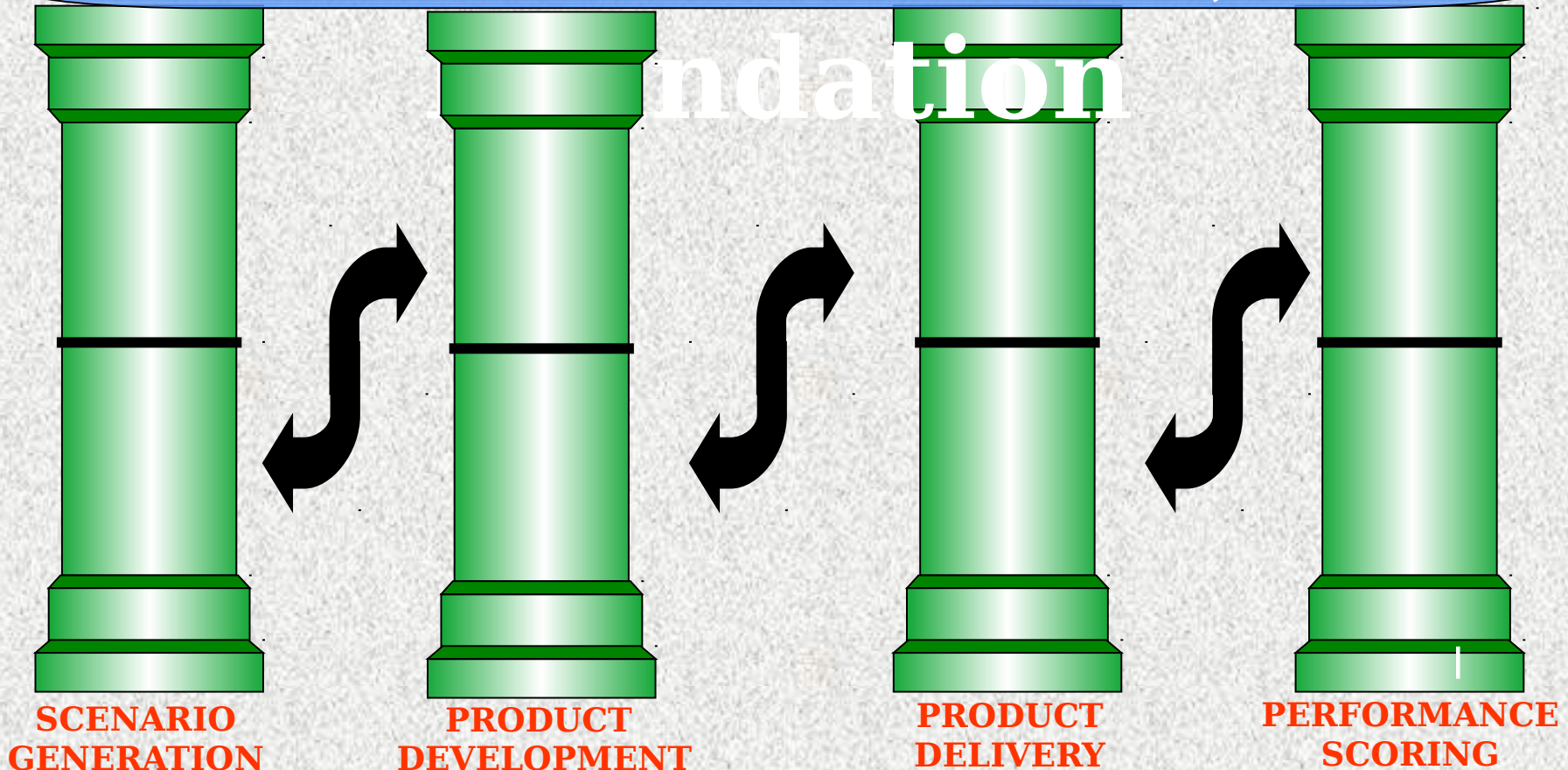


Uniquely Qualified to Provide the Threat Test Environment

Test Support Approach

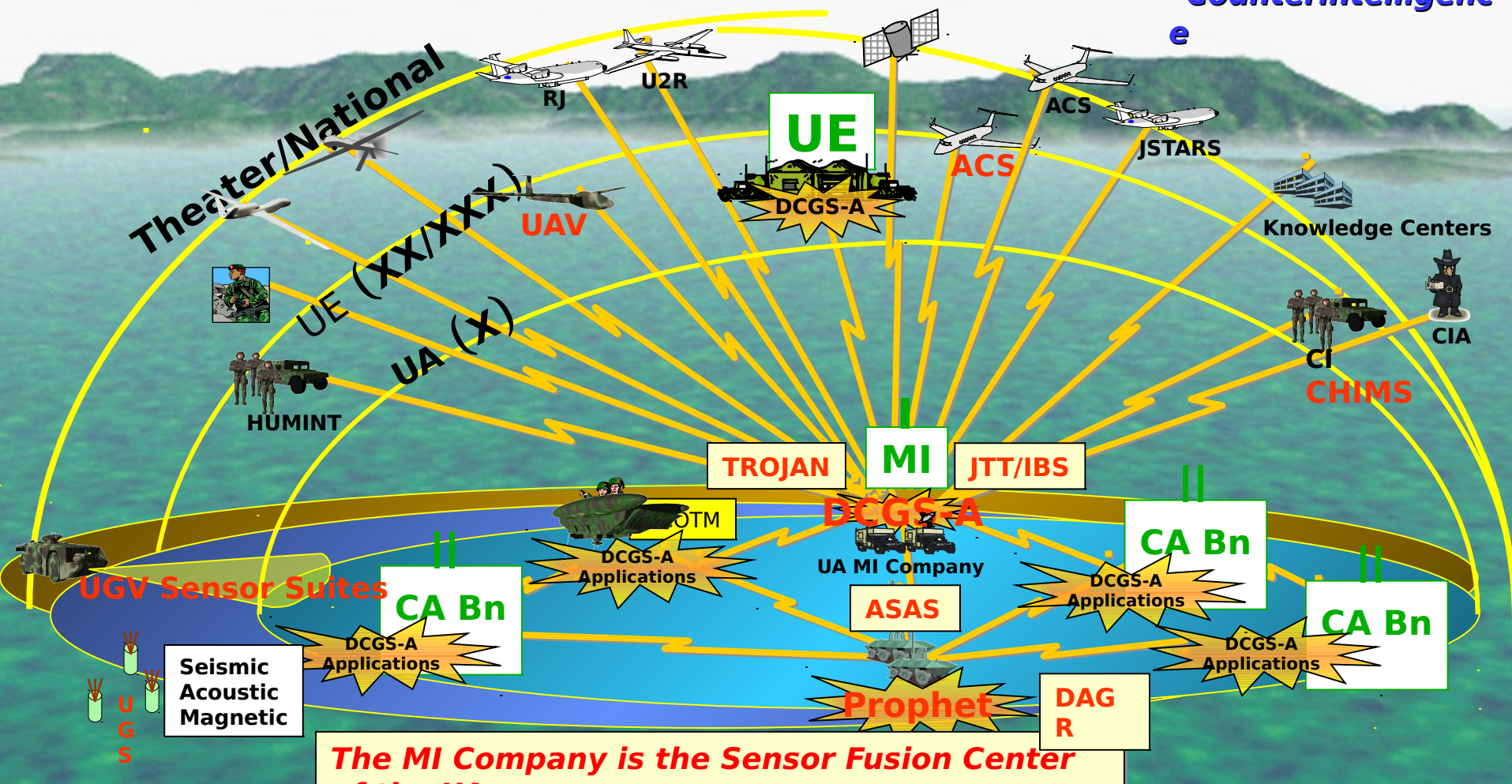
SUCCESSFUL TESTING PROGRAM

**M&S&I Effort,
Foundation**



IEWTDD's contribution to FCS ISR

- SIGINT
- IMINT
- MASINT
- HUMINT
- Counterintelligence





**Always Out
Front**



"TESTING IS THE CONSCIENCE OF ACQUISITION."

**Honorable William Perry
Secretary of Defense**